

**Partial EPA Review of the Navy Responses to Comments (RTCs) (dated May 13, 2019) for the Draft Final Parcel G Removal Site Evaluation Work Plan Draft Final (dated November 2, 2019), Hunters Point Shipyard, San Francisco, California. EPA Comments on the Work Plan were submitted December 13, 2018 and April 25, 2019)
EPA Comments dated May 22, 2019**

Please note the following:

1. Because reference background sampling, which is outside Parcel G, is a priority, to avoid unnecessary delay of field work, EPA's initial review has focused on the portions of the RTCs relevant to that work. These are highlighted in yellow below. We have also made an effort to give preliminary comments now that also address the later work in Parcel G for soil and buildings. However, further comments about Parcel G work may be sent later to supplement this set.
2. Because a revised document was not provided to EPA yet, we understand from an email from Derek Robinson on May 14, 2019, and from a verbal discussion at a Navy conference call the same day that the Navy will first review these EPA comments and then next provide pages of the revised Parcel G Work Plan text reflecting the incorporation of the RTCs. As we stated earlier, EPA will review the forthcoming revised text relevant to reference background to confirm resolution of comments and then consider partial approval of the Work Plan for soil reference background testing.

Responses to USEPA Comments (December 13, 2018)

Response to General Comment (GC) 1 (Original GCs 10 and 11, and Appendix C, Section 3.1.6.4): The response addresses the questions regarding the calculation of the theoretical Minimum Detectable Concentrations (MDCs) for gamma walk-over scanning. Please add text that commits that later field measurement (empirical) data will be provided to regulatory agencies to demonstrate the actual achievable MDCs for the project.

Response to GC 2 (Original GC 10): The response states that the MDCs for the soil sorting system are provided in Appendix F of the Parcel G Work Plan Addendum; however, the information provided includes calculations of theoretical MDCs only. Please add text to commit that after running soil from reference background location(s) through the soil sorter, actual field measurement (empirical) data will be provided to the regulatory agencies after it is collected to demonstrate the actual achievable radioisotope-specific MDCs at the start of the field project.

Response to GC 3 (Original GC 15a): The response indicates a note will be added to state that Survey Unit (SU) 69 consists of building exterior surfaces; however the note that is proposed for addition to Figure 11-7 does not indicate that the SUs for the exterior of Building 366 are designated as Class 3. Please revise the appropriate figures in the Parcel G Work Plan and in the Sampling and Analysis Plan (SAP) to indicate which SUs will be investigated as Class 3 areas.

Response to GC 5 (Original comments): This response partially addresses the comment. The *Five-Year Review* should indeed evaluate the potential that if multiple radionuclides are present

at the same location, even if they meet an individual remedial goal that is below 1×10^{-4} risk, a combination of the risks from multiple radionuclides could still exceed this overall risk.¹ We agree that the *Five-Year Review* should recommend followup action to ensure long-term protectiveness under this scenario. One potential action could be that the remedial goals should be set at more protective levels to prevent this scenario from occurring. If that is the case, then the Work Plan should be revised to adopt any recommended changes to accomplish this goal. Alternatively, another potential action could be that if multiple radionuclides are present at a location, then the combination of risks should be evaluated to determine whether further cleanup beyond the original remedial goals could be necessary to ensure the combined risk remains below 1×10^{-4} . Either action would require revision to the Work Plan. Thank you for discussing these possibilities by phone on May 21, 2019. As we discussed, please add text that commits that the Work Plan will be revised as necessary to incorporate future recommendations from the *Five-Year Review* process to address this potential concern.

Response to GC 7 (Original Sampling and Analysis Plan [SAP] GC 1): The response addresses the comment, but based on the Final SAP included as attachment 1 to the SAP in the Work Plan Addendum, it was not implemented. Worksheet #11, Project Quality Objectives/Systematic Planning Process Statements, should document all decision criteria for the project, and Worksheets #14 – Summary of Project Tasks and #17 – Sampling and Survey Design and Rationale are expected to contain a description of all major project activities. As such, Worksheets #11, #14, and #17 in the SAP should be revised to reflect the requirement to excavate 100 percent (%) of the Phase 2 trenches if contamination is found in any Phase 1 Trench Units (TUs). Please ensure that the SAP is updated to reflect the commitment to excavate 100% of the Phase 2 trenches if contamination is found in any Phase 1 trench.

Response to SAP GC 11 (Original GC 14, item o): This response partially addresses the request to update language. Please also revise the text to do the following:

- to state that distributional properties of the data will be tested and the data set confirmed to follow a normal distribution prior to employing Dixon/Rosner's tests,
- to identify the processes for identifying outliers that will be used if the data set proves not to be normally distributed (some type of distributional assumption has to be made to apply a statistical outlier test such as Dixon/Rosner's), and
- to detail the non-parametric/alternate methods that would be employed to calculate the mean and standard deviation of the data sets if they are not normally distributed.

Please provide this information.

¹ EPA's March 26, 2018, comments on the draft Work Plan, Radiological Survey and Sampling (Cover Letter, Page 1); EPA's September 21, 2018, comments on the draft Fourth Five-Year Review, General Comment 2b (Section 6.2.2, Changes in Toxicity and Other Contaminant Characteristics); EPA's August 14, 2018, comments on the draft Parcel G Removal Site Evaluation Work Plan, Specific Comment 6 (Section 3.3 and 4.3, Remediation Goals for soil and buildings, respectively) and Specific Comment 15c (Section 4, Building Investigation Design and Implementation).

Responses to New General Comments

Response to GC 2: The revised Table 3-4 does not include Th-232 as an ROC for “Former Sanitary Sewer and Storm Drain Lines.” For example, at Trench Unit 115, “One additional radionuclide of concern (ROC) was identified (thorium-232 [²³²Th]).”² Please check original ROCs to ensure that the lists of ROCs in Table 3-4 includes all the relevant radionuclides.

Response to GC 3: The Response addresses the comment. For confirmation, please add language in the Work Plan that specifies that once field work begins, empirical data should be submitted to regulatory agencies that substantiate the investigation levels (ILs).

Response to GC 5: The response addresses the comment. Please revise the text of the Work Plan to commit that the site-specific DACs for any ROC’s are submitted to the regulatory agencies before initiating field work. In addition to the locations listed in the previous EPA comment, please note that Th-232 is a ROC for Trench Unit 115. Please add Th-232 to the table and specify that Th-232 applies to areas where it is an ROC, such as the those listed above.

Response to GC6: This response partially addresses the comment. Thank you for discussing this comment by phone on May 21, 2019. As we discussed, please clarify in the text of the revised Work Plan that if any RBA is found to have signs of contamination then an alternate RBA will be proposed to regulatory agencies as a replacement.

Response to GC 7: The response does not address the comment. Based on the text cited in the response, the original EPA comment is applicable. Please state whether the distribution of the data sets will be tested to determine whether they represent a normal distribution or exhibit skewness or other population distributions, and/or if non-parametric tests for calculating the mean and standard deviation will be used. It is important to know the data distribution to be able to properly model the data using kriging functions as proposed later in the Section. Please revise this and any other relevant sections of the Draft Final Work Plan to include the requested information.

Response to GC 8: The response partially addresses the comment. Section 4.2.2 currently states, “or other appropriate tests, including non-parametric methods.” may be used. Emphasis is then placed on detailing the Dixon and Rosner’s outlier tests. Please provide more detail within the text on the possible “other appropriate tests” that may be used. Please also revise the Draft Final Work Plan to propose a plan for identifying outliers if the data proves not to be normally distributed.

Response to GC 9: Because the planned process will be determined over the course of the study, please add language that the planned process will be determined in consultation with the EPA and the other Regulators upon data evaluation. A flow diagram of the process questions could be designed to address the possibilities, identifying how the decisions would branch based on the situations that are encountered, for inclusion in the SAP and Work Plan. Also, as initially requested, please revise the Draft Final Work Plan to provide consistent information in the main

² Final Survey Unit 115 Project Report, Parcel G Sanitary Sewer and Storm Drain Removal Project, Hunters Point Shipyard, DCN: ECSD-3211-0018-0115, Section 2.0, p. 2-1.

sections of the Work Plan, the Appendix B SAP and the Background Work Plan that explains how the background analysis will be conducted.

USEPA Comments (April 25, 2019)

Response to GC2: This response partially addresses the comment. To clarify, EPA intended to state that USEPA and DTSC/CDPH will request split samples from the Navy's contractor. We apologize for the confusion. Therefore, please specify in the revised text that the contractor will provide split samples to regulatory agencies.

Response to GC 3: The response addresses the comment. Please note this update: depending on the laboratory selected for Strontium-90 analyses, EPA may have to use a different numbering scheme for split samples that will be submitted for regulators' independent analysis. We will let you know once we finalize plans.

Response to GC 6a iii, vi, and vii: The responses partially address these comments. Please revised the text of the Work Plan to commit that once fieldwork begins, empirical data should be submitted to regulatory agencies to demonstrate the achievable MDCs in the field.

Response to GC 6a iii: This response partially addresses the comment. Please also provide the energy lines for any other ROCs that will be analyzed using gamma spectroscopy, e.g. Th-232.